

1. (ORIGINAL) A method of screening a compound or its salt that changes the binding property of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, to a fatty acid or a salt thereof, which comprises using (1) the receptor protein, its partial peptide, or a salt thereof and (2) the fatty acid or a salt thereof.

2. (CURRENTLY AMENDED) A kit for screening a compound by the method of Claim 1 ~~or its salt that changes the binding property of a G protein coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, to a fatty acid or a salt thereof,~~ comprising (1) the receptor protein, its partial peptide, or a salt thereof and (2) the fatty acid or a salt thereof.

3. (CURRENTLY AMENDED) A method of Claim 1 for ~~of~~ screening an agonist or an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, which comprises using (1) the receptor protein, its partial peptide, or a salt thereof and (2) a compound or its salt that changes the binding property of the receptor protein, or a salt thereof to a fatty acid or a salt thereof.

4. (CURRENTLY AMENDED) A kit for screening an agonist or an antagonist to a G protein-coupled receptor protein by the method of Claim 3 ~~comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof,~~ comprising (1) the receptor protein, its partial peptide, or a salt thereof and (2) a compound or its salt that changes the binding property of the receptor protein, or a salt thereof to a fatty acid or a salt thereof.

5. (CURRENTLY AMENDED) A pharmaceutical agent comprising a compound or its salt that changes the binding property of a fatty acid or a salt thereof to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID

NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, and a pharmaceutically acceptable diluent, carrier or excipient.

6. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, comprising an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, and a pharmaceutically acceptable diluent, carrier or excipient.

7. (CURRENTLY AMENDED) An agent according to Claim 5 for regulating stress, comprising an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, and a pharmaceutically acceptable diluent, carrier or excipient.

8. (CURRENTLY AMENDED) An agent according to Claim 5 for suppressing adrenocorticotrophic hormone (ACTH) secretion, comprising an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

9. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, comprising an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

10. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating obesity, comprising an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

11. (CURRENTLY AMENDED) An agent according to Claim 5 for regulating stress, comprising an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

12. (CURRENTLY AMENDED) An agent according to Claim 5 for promoting adrenocorticotrophic hormone (ACTH) secretion, comprising an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

13. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

14. (CURRENTLY AMENDED) A method of Claim 1 for screening an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, which comprises assaying the intracellular Ca^{2+} level increasing activity, the intracellular cAMP production suppressing activity, MAP kinase phosphorylation or activation, the adrenocorticotrophic hormone (ACTH) secretion suppressing activity, the

glycerol production suppressing activity or the lipolysis suppressing activity in the case where a test compound is contacted with cells containing a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

15. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, comprising a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

16. (CURRENTLY AMENDED) An agent according to Claim 5 for regulating stress, comprising a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

17. (CURRENTLY AMENDED) An agent according to Claim 5 for suppressing adrenocorticotrophic hormone (ACTH) secretion, comprising a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

18. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, comprising a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

19. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, comprising a polynucleotide comprising a

polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

20. (CURRENTLY AMENDED) An agent according to Claim 5 for regulating stress, comprising a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

21. (CURRENTLY AMENDED) An agent according to Claim 5 for suppressing adrenocorticotrophic hormone (ACTH) secretion, comprising a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

22. (CURRENTLY AMENDED) An agent according to Claim 5 for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, comprising a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

23. (CURRENTLY AMENDED) A diagnostic agent for diabetes mellitus, impaired glucose tolerance, ketosis, acidosis, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, hyperlipemia, arteriosclerosis, angina pectoris, myocardial infarction, sexual dysfunction, obesity, pituitary dysfunction, cancer, deficits in memory and learning, pancreatic exhaustion, hypoglycemia, insulin allergy, lipotoxicity, fatty atrophy, cancerous cachexia, hyperinsulinemia, hyperglycemia, disorder caused by high FFA flux, hypertriglyceridemia, fatty liver, dysfunction of heat production,

cholelithiasis, eating disorder, secretion disorders of intestinal hormones or circulatory disease, comprising a polynucleotide ~~comprising a polynucleotide~~ encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

24. (CURRENTLY AMENDED) A diagnostic agent of Claim 23 for stress, comprising a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

25. (CURRENTLY AMENDED) A diagnostic agent of Claim 23 for ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

26. (CURRENTLY AMENDED) An agent for preventing/treating obesity, comprising an antibody which binds to a G protein-coupled receptor protein

comprising the same or substantially the same amino acid-sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

27. (CURRENTLY AMENDED) An agent of Claim 26 for regulating stress, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

28. (CURRENTLY AMENDED) An agent of Claim 26 for promoting adrenocorticotrophic hormone (ACTH) secretion, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

29. (CURRENTLY AMENDED) An agent of Claim 26 for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

30. (CURRENTLY AMENDED) ~~A~~ An agent of Claim 26 which is a diagnostic agent for diabetes mellitus, impaired glucose tolerance, ketosis, acidosis, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, hyperlipemia, arteriosclerosis, angina pectoris, myocardial infarction, sexual dysfunction,

obesity, pituitary dysfunction, cancer, deficits in memory and learning, pancreatic exhaustion, hypoglycemia, insulin allergy, lipotoxicity, fatty atrophy, cancerous cachexia, hyperinsulinemia, hyperglycemia, disorder caused by high FFA flux, hypertriglyceridemia, fatty liver, dysfunction of heat production, cholelithiasis, eating disorder, secretion disorders of intestinal hormones or circulatory disease, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

31. (CURRENTLY AMENDED) * An agent of Claim 26 which is a diagnostic agent for stress, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

32. (CURRENTLY AMENDED) * An agent of Claim 26 which is a diagnostic agent for ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or its partial peptide, or a salt thereof.

33. (CURRENTLY AMENDED) An agent for preventing/treating obesity, comprising a polynucleotide comprising the entire or part of a nucleic acid base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide of the receptor protein.

34. (Currently Amended) An agent of Claim 33 for regulating stress, comprising a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide of the receptor protein.

35. (Currently Amended) An agent of Claim 33 for promoting adrenocorticotrophic hormone (ACTH) secretion, comprising a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide of the receptor protein.

36. (Currently Amended) An agent of Claim 33 for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising a polynucleotide comprising the entire or part of a base sequence

complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide of the receptor protein.

37. (ORIGINAL) An agent for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, comprising a compound or its salt that increases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

38. (Currently Amended) An agent of Claim 37 for regulating stress, comprising a compound or its salt that increases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

39. (Currently Amended) An agent of Claim 37 for suppressing adrenocorticotrophic hormone (ACTH) secretion, comprising a compound or its salt that increases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

40. (Currently Amended) An agent of Claim 37 for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, comprising a compound or its salt that increases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

41. (ORIGINAL) An agent for preventing/treating obesity, comprising a compound or its salt that decreases the expression level of a G protein-

coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

42. (Currently Amended) An agent of Claim 41 for regulating stress, comprising a compound or its salt that decreases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

43. (Currently Amended) An agent of Claim 41 for promoting adrenocorticotrophic hormone (ACTH) secretion, comprising a compound or its salt that decreases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

44. (Currently Amended) An agent of Claim 41 for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, comprising a compound or its salt that decreases the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof.

45. (Currently Amended) An agent of Claim 5 for potentiating the signal transducing activity of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence

represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, comprising a fatty acid or a salt thereof.

46. The agent according to claim 45, which is an agent for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction.

47. The agent according to claim 45, which is an agent for regulating stress.

48. The agent according to claim 45, which is an agent for suppressing adrenocorticotrophic hormone (ACTH) secretion.

49. The agent according to claim 45, which is an agent for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy.

50. The agent according to claim 45, which is an agent for suppressing adrenocorticotrophic hormone (ACTH) secretion.

51. (ORIGINAL) A method of preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, which comprises administering to a mammal an effective dose of (i) a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

52. (CURRENTLY AMENDED) A method of Claim 51 of regulating stress, which comprises administering to a mammal an effective dose of (i) a G protein-coupled receptor protein comprising the same or substantially the same amino

acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

53. (CURRENTLY AMENDED) A method of Claim 51 of suppressing adrenocorticotrophic hormone (ACTH) secretion, which comprises administering to a mammal an effective dose of (i) a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

54. (CURRENTLY AMENDED) A method of Claim 51 of preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, which comprises administering to a mammal an effective dose of (i) a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or

substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

55. (CURRENTLY AMENDED) A method of Claim 51 of preventing/treating obesity, which comprises administering to a mammal an effective dose of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

56. (CURRENTLY AMENDED) A method of Claim 51 of regulating stress, which comprises administering to a mammal an effective dose of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or

substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

57. (CURRENTLY AMENDED) A method of Claim 51 of promoting adrenocorticotrophic hormone (ACTH) secretion, which comprises administering to a mammal an effective dose of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

58. (CURRENTLY AMENDED) A method of Claim 51 of preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock, which comprises administering to a mammal an effective dose of (i) an antibody to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, its partial peptide, or a salt thereof, (ii) a polynucleotide comprising the entire or part of a base sequence

complementary to a polynucleotide comprising a polynucleotide encoding a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, or (iii) an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof.

59. - 66. (CANCELED)

67. (CURRENTLY AMENDED) A method for confirming that (i) a drug for preventing/treating diabetes mellitus, impaired glucose tolerance, ketosis, acidosis, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, hyperlipemia, arteriosclerosis, angina pectoris, myocardial infarction, sexual dysfunction, obesity, pituitary dysfunction, cancer, deficits in memory and learning, pancreatic exhaustion, hypoglycemia, insulin allergy, lipotoxicity, fatty atrophy, cancerous cachexia, hyperinsulinemia, hyperglycemia, disorder caused by high FFA flux, hypertriglyceridemia, fatty liver, dysfunction of heat production, cholelithiasis, eating disorder, secretion disorders of intestinal hormones or circulatory diseases, (ii) a drug for regulating stress, (iii) a drug for regulating adrenocorticotrophic hormone (ACTH) secretion, (iv) a drug for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy, or (v) chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos

due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock,

binds to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, which comprises using the receptor protein or a salt thereof in an assay.

68. (CURRENTLY AMENDED) A method of Claim 67 for confirmation that a drug for preventing/treating (i) a drug for preventing/treating diabetes mellitus, hyperlipemia, arteriosclerosis, angina pectoris or myocardial infarction, (ii) a drug for regulating stress, (iii) a drug for suppressing adrenocorticotrophic hormone (ACTH) secretion, or (iv) a drug for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or adrenocortical atrophy,

is an agonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, which comprises using the receptor protein or a salt thereof in an assay.

69. (CURRENTLY AMENDED) A method of Claim 67 for confirmation that (i) a drug for preventing/treating obesity, (ii) a drug for regulating stress, (iii) a drug for promoting adrenocorticotrophic hormone (ACTH) secretion, or (iv) a drug for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster,

psoriasis, drug allergy or anaphylactic shock, is an antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a salt thereof, which comprises using the receptor protein or a salt thereof in an assay.

70. (CURRENTLY AMENDED) A method of Claim 67 ~~for confirmation according to claims 67 through 69~~, wherein the binding amount of each drug to the receptor protein, its partial peptide or a salt thereof is determined when each drug is contacted with the receptor protein, its partial peptide or a salt thereof.

71. (CURRENTLY AMENDED) A pharmaceutical comprising the combination of (1) (i) an agonist or antagonist to a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or/and (ii) a compound or its salt that changes the expression level of a G protein-coupled receptor protein comprising the same or substantially the same amino acid sequence as the amino acid sequence represented by SEQ ID NO: 1, SEQ ID NO: 3 or SEQ ID NO: 8, or a partial peptide thereof, and (2) (i) a drug for preventing/treating diabetes mellitus, impaired glucose tolerance, ketosis, acidosis, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy, hyperlipemia, arteriosclerosis, angina pectoris, myocardial infarction, sexual dysfunction, obesity, pituitary dysfunction, cancer, deficits in memory and learning, pancreatic exhaustion, hypoglycemia, insulin allergy, lipotoxicity, fatty atrophy, cancerous cachexia, hyperinsulinemia, hyperglycemia, disorder caused by high FFA flux, hypertriglyceridemia, fatty liver, dysfunction of heat production, cholelithiasis, eating disorder, secretion disorders of intestinal hormones or circulatory diseases, (ii) a drug for regulating stress, (iii) a drug for regulating adrenocorticotrophic hormone (ACTH) secretion, (iv) a drug for preventing/treating ACTH-producing tumor, Cushing's disease, infectious disease, secondary adrenocortical insufficiency, peptic ulcer, diabetes mellitus, mental disorder, cataract, glaucoma, tuberculous disease, hypertension, Cushing's syndrome or

adrenocortical atrophy, or (v) a drug for preventing/treating chronic articular rheumatism, systemic lupus erythematosus, polymyositis, rheumatic fever, scleroderma, kidney disease, bronchial asthma, pulmonary tuberculous pleuritis, sarcoidosis, diffuse interstitial pneumonia, ulcerative colitis, cholestatic acute hepatitis, fulminant hepatitis, chronic hepatitis, cirrhosis, encephalomyelitis, peripheral neuritis, multiple sclerosis, myasthenia gravis, facial paralysis, hemolytic anemia, granulocytosis, purpura, aplastic anemia, leukemia, malignant lymphoma, acute or chronic adrenocortical insufficiency, adrenogenital syndrome, malignant exophthalmos due to thyroid gland disease, ACTH isolated deficiency, urticaria, eczema, dermatitis, herpes zoster, psoriasis, drug allergy or anaphylactic shock and a pharmaceutically acceptable carrier, excipient or diluent.

72. (Currently Amended) ~~A~~ An isolated G protein-coupled receptor protein consisting of the amino acid sequence represented by SEQ ID NO: 8, its partial peptide or a salt thereof.

73. (Currently Amended) ~~A~~ An isolated polynucleotide comprising a polynucleotide encoding the G protein-coupled receptor protein according to claim 72.

74. (Currently Amended) ~~A~~ An isolated DNA consisting of the base sequence represented by SEQ ID NO: 9.

75. (ORIGINAL) A recombinant vector comprising the polynucleotide according to claim 73.

76. (Currently Amended) A ~~transformant~~ host cell transformed by the recombinant vector according to claim 75.

77. (Currently Amended) A method of producing the G protein-coupled receptor protein or a salt thereof according to claim 72, which comprises culturing a host cell transformed with a recombinant vector comprising an expressible polynucleotide encoding for the protein of claim 72, for sufficient time and under conditions suitable for production of said protein ~~the transformant according to claim 76 and producing the G protein coupled receptor protein or a salt thereof according to claim 72.~~